



# **College Of Computer Science Network**

**NET 432**

**LAB 0**

**Introduction to OPNET**

**2012**

## Introduction to OPNET

### Objective

This lab teaches you the basics of using OPNET IT Guru Academic Edition. OPNET IT Guru Academic Edition enables students to better understand the core concepts of networking and equips them to effectively troubleshoot and manage real-world network infrastructures.

### Introduction to OPNET

OPNET's IT Guru provides a Virtual Network Environment that models the behavior of your entire network, including its routers, switches, protocols, servers, and individual applications. By working in the Virtual Network Environment, IT managers, network and system planners, and operations staffs are empowered to diagnose difficult problems more effectively, validate changes before they are implemented, and plan for future scenarios including growth and failure.

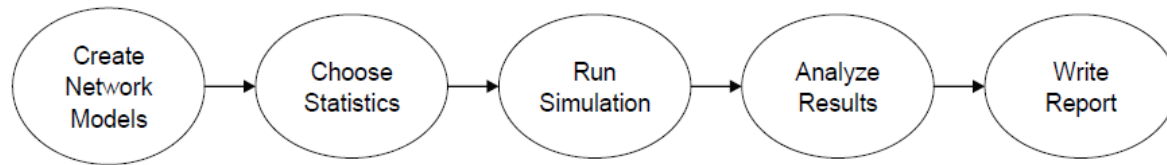
OPNET's Application Characterization Environment (ACE) module for IT Guru enables enterprises to identify the root cause of end-to-end application performance problems and to solve them cost-effectively by understanding the impact of changes.

### Overview

There will be 10 LABs in this course. In these labs, you will learn the basics of the OPNET IT Guru Academic Edition software. You will get familiar with OPNET IT GURU interment and how to use the software to create different network topologies and how to obtain and analyse the statics.

In each lab, students will be provided with an instruction manual that presents a modeling problem in OPNET project. Students are required to build a network model and/or gather statistical information about the network, and analyze those results.

At the End, students are required to submit a LAB report and solve some questions analyzing the output of the topology used in the LAB project.



## Lab Report

The laboratory report of all labs in this course should include the following items/sections:

- **A cover page** with your name, course information, lab number and title, and date of submission.
- A summary of the addressed topic and **objectives** of the lab.
- Implementation: a **brief description** of the process you followed in conducting the implementation of the lab scenarios.
- **Results** obtained throughout the lab implementation, the **analysis** of these results, and a comparison of these results with your expectations.
- **Answers** to the given questions at the end of the lab. If an answer incorporates new graphs, analysis of these graphs should be included here.
- A **conclusion** that includes what you learned, difficulties you faced, and any suggested extensions/improvements to the lab.

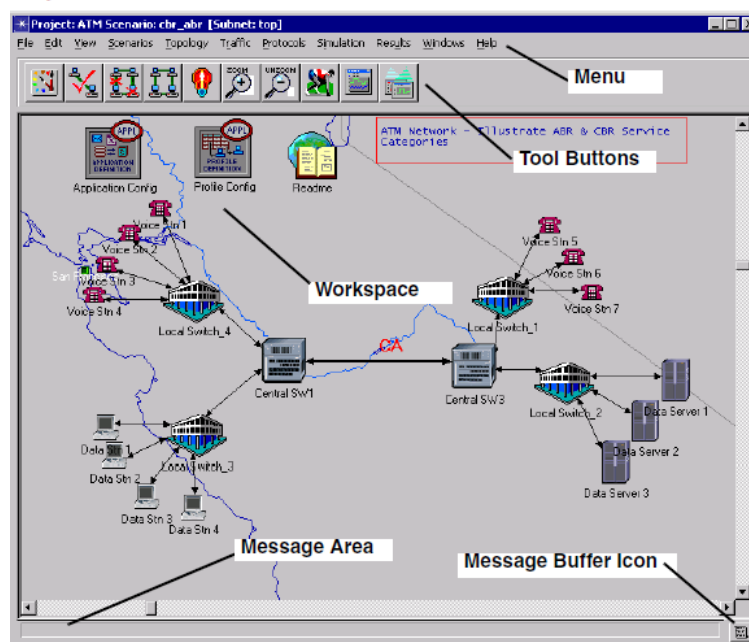
## Procedure

To start OPNET IT Guru Academic Edition:

1. Click on **Start ⇒ Programs ⇒ OPNET IT Guru Academic Edition**  
**Click** I have read this SOFTWARE AGREEMENT and I understand and accept the terms and conditions described herein.

In this tutorial you will learn how to use OPNET IT Guru features to build and analyze network models. When you open an existing project, your screen should look similar to the following figure.

**Project Editor Window**



**Tool Buttons**



You will use many of the action buttons in the tutorial.

- |                            |                                       |
|----------------------------|---------------------------------------|
| ① Open object palette      | ⑥ Zoom                                |
| ② Check link consistency   | ⑦ Restore                             |
| ③ Fail selected objects    | ⑧ Configure discrete event simulation |
| ④ Recover selected objects | ⑨ View simulation results             |
| ⑤ Return to parent subnet  | ⑩ Hide or show all graphs             |